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T R E A T I S E
O F
P O I S O N S,
V E G E T A B L E,
A N I M A L A N D M I N E R A L,
W I T H T H E I R C U R E.

By JOHN COOKE, M.D.

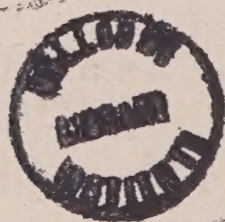
Nam quoniam variant animi, variamus & artes
Mille mali species, mille salutis erunt.

OVID de Remed. Amoris, Lib. 2.

L O N D O N :

Printed for EDWARD and CHARLES DILLY,
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M DCC LXXXI



P R E F A C E.

AS Poisons sometimes, either through accident or design, happen to be taken by poor people, whose distance from a Doctor, or their narrow circumstances, render them unable to call in speedy assistance, I be-
thought, that among my many other medical pieces, a short, cheap, and plain treatise on Poisons, might be a present not unacceptable to the public; and the more so, as such a ready manual is

much wanting; which, if it should at any time prove the happy means of preserving but one single life, I shall think it well worth my trouble of composing, and printing the same.

And moreover, to prevent the intended wickedness of all such abandoned wretches who would buy Poisons at the Apothecaries shops, on purpose to destroy those they bear malice to; or to discover such miscreants who have actually murdered thereby any fellow-creature, in order to bring them to justice, I would advise all venders of poison to enter the name and place of abode of the buyer, into their books; the day
of

of the month they fold it on; with the intended or pretended uses thereof; that in case it be misapplied to any premeditated mischief, the culprit may be speedily seized upon, to be tried, and condemned to condign punishment, as his cruel crime most justly deserves.

I well remember that when I was a youth, a farmer's wife in the neighbourhood, who by taking a criminal fancy to her servant man, wanted to get rid of her old husband, that her paramour might take his place, sent to my father, a Surgeon-apothecary of great practice for twenty-six years in this place, for some arsenic, un-

der pretence to kill rats; but for want of this precaution for a future proof before a court of justice, and which he ever afterwards observed, till the year 1726, wherein he died, she escaped prosecution, and married her servant *Bug* at last; but being troubled in conscience on her death-bed, she could not in her last moments depart in peace, till she had publicly confessed the crime, and so the murder came out.

Leigh, in Essex,
January 1, 1770.

A T R E A-

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T R E A T I S E
O F
P O I S O N S.

AS most Poisons, either designedly or accidentally taken, have caused the death of many, and no one is sure it may not, one time or other, be his own case, while he breathes here below in the midst of danger and wickedness, it came into my mind to draw up a brief account of the variety of Poisons, with their peculiar nature, manner of operation, and the best method of cure, when it can be accomplished.

Poisons then are many, and of various kinds, according to the particular tribe, or class of beings, they peculiarly belong to: thus, they are either of the *vegetable*,
A 4 *animal*,

animal, or *mineral* kingdom ; of each of which in their regular order.

In one sense indeed, the taking too much of any thing, otherways innocent, is nought; and by becoming indigestible by the stomach may be duly deemed poisonous: but by Poisons here to be treated of, I mean those violent destructive substances that, taken but in a small quantity, can suddenly destroy life, or at least do such violent and lasting injuries to the constitution of the body, by some ill quality, or manner of working, as is never entirely overcome; for it is not the essential nature of Poisons that they should always directly kill, some having had so strong a constitution as by the mere efforts of nature happily to overcome the bad effects of the poisonous dose; while even in others, not so robust, certain death neither did ensue, but madness, melancholy, foolishness, or some other ill effects, have been the unhappy consequence of Poison received.

There are two ways whereby poisonous substances affect our bodies: namely, either taken in at the mouth and stomach, or admitted into the blood and
juices

juices externally, both of which ways we are to treat of separately: and first of Poisons swallowed.

The several signs of such are pretty well known: as belchings of a fetid ill taste; next, a considerable alteration of the pulse, and motion of the heart, and breathing; a sudden sinking of strength; straitness of the *precordia*; palpitation, fainting fits, syncope, and sometimes a vertigo, or giddiness, and dimness of sight; tremblings; convulsions; hiccoughs; stupidity; gnawings, and violent pains; sometimes erosions of the stomach and intestines; thirst, stoppage of urine; vomiting up putrid matter; sometimes a great looseness, gripes, bloody flux, with coldness of the extreme parts; cold clammy sweats; tumour of the tongue; swelled and black lips; a swelling of the stomach and hypocondria, and oft-times of the whole body, which is puffed up, with spots scattered up and down; and lastly, if not very lucky, even death itself. But all these symptoms do not all happen alike to all bodies, but some to some constitutions, and others to other habits, as may occasionally happen.

Again, The difference of Poisons is very great, some being much more dangerous than others: so some kill sooner, others slower, according to their different degree of acrimony; the quantity taken; and other concomitant circumstances attending the same.

The chief prognostics, and greatest hope of help, are to be taken from the fewer number, and lesser degree of violence, of the threatening symptoms; if fit medicines be presently and duly exhibited, and the patient becomes better by the use of them, it promises well.

Yet it often happens in those who fortunately recover from sudden death, that some lasting mischief is imprinted on the body by the Poison received, which continues stubborn, and exerts its bad effects a long time after, occasioning in some constitutions long and dangerous distempers; as some have complained even from the infection received by inoculation for the small pox.

But that vulgar opinion, so current, is utterly false, that the *Indians*, and from them the *Italians*, have such an art of poisoning, that they can kill persons surely to a certain day, or any determinate time,
just

just as they choose, whether months, weeks or days. This, in the very nature of things, is quite impossible. For nature herself, who is never at rest, operates with her whole strength against all Poisons, and in time often overpowers, or frustrates the fatal effects of the deadly venom.

As to the cure of Poisons, which admit of no delay, but call for quick and speedy assistance, the common intentions in general are these two: first, to call back or expel what poisonous bodies were swallowed, and that the same way if possible it was taken in; and then, secondly, to conquer the remainder with cordials, or alexipharmics, which indeed do not, properly speaking, work upon the Poison itself, but strengthen the body the better to bear it, by increasing the force of the heart and pulse, that it may be able to expel that portion of the Poison that had reached the veins, and so do good to the person poisoned, as it were by accident.

Wherefore there is an absolute necessity that the Poison taken in be discharged as soon as possible, and that by vomits likewise, as the quickest way to get rid
of

of it. Yet these ought not to be of the stronger sort, too sharp, stimulating, or corrosive, for that would be as adding fuel to the fire; but the mildest and softest to be had, prepared of such bodies as possess a sizziness, that are of a mucilaginous and oily nature, that may by their soft and diluting quality in some measure blunt the acrimony of the deleterious particles, and guard the membranes of the stomach and guts, and line their naked fibres as it were with a defensative plaster, from the Poisons pricking and wounding them.

In all such sudden and alarming cases, all haste is to be made, and without delay these following fluids are to be plentifully poured down the patient's throat, as being most ready at hand: warm water mixed with fresh butter, or sweet oil, which are as good as any thing, and to be taken in such quantities as to flow through the patient plentifully, to wash its way clean, and carry all before it. Mucilaginous liquors, and fat broths are also very proper.

But observe, it is not enough to provoke vomiting once, but it should be repeated, and continued till there is no more
signs

signs of Poison in the stomach, by taste, smell, nausea, or pain. And if the Poison has passed further, even to the intestines, they also are to be cleansed, and cleared of the same, by clysters often repeated, made of whey, mallows, and oil.

Gentle purgatives are also to be exhibited, that the upper, or small guts, may be cleared: such as pulp of cassia, tamarinds, manna, fenna, rubarb, or the like, drinking plentifully of new made cheese whey, to promote their operation.

Emulsions of sweet almonds, or of cold seeds; gum arabic, or tragacanth, sweetened with syrup of marsh-mallows, and the decoction of their roots, are all very suitable to blunt the irritating acrimony of the poisonous particles, and sheath the coats of the bowels with a mucilaginous lining.

Last of all, if any relics of the Poison remain in the body, and have reached the blood, they are to be diverted from the heart, and other bowels, by expelling them to the surface of the body, and carried off thence by perspiration and sweat; which expelling office alexipharmic, or hot medicines, best perform, and they likewise should be continued

nued for a time, till the malignant disposition of the poisonous substance is quite overcome, or expelled the body. Let plenty of milk, or what can be made of milk, with soft jellies of hartshorn, or calves feet, with nourishing broths, especially of veal, be used for common diet, and continued for a season.

Thus much on Poisons in general: But because the most natural and regular division of Poisons in specie is to be taken from the difference of those bodies which they are contained in, we divide them, for distinction sake, into three several classes, *vegetable*, *animal*, and *mineral*; from whence, by those examples placed before our eyes, the practice for the rest may easily be deduced.

I. *Of vegetable Poisons, that act from acrimony.*

OF the whole class of plants *hemlock*, and *wolf's-bane*, challenge the first place. Hemlock is rank poison in every part of it. Several have suffered death by eating, through mistake, their roots instead of those of carrots. The *Athenians* used to give the juice of hemlock
to

to their condemned criminals, and even good *Socrates* himself is said to have died by the like deadly dose.

Hemlock is very hot and acrid, and whatever good it may have done in *Germany*, under the skilful directions of the great *Van Swieten*, it does not seem to answer so well in our climate for cancers; as my kind and learned friend, Dr *John Andree*, has sufficiently shewn in a pamphlet he some time ago published, *ex professo*, on that subject.

Now all poisonous vegetables act more or less either as stimulatives; or narcotics, or stupifiers.

The manner this deleterious herb, when taken inwardly, acts on animal bodies, is by exciting violent pain by its irritating the stomach and *precordia*, with a great sense of pricking pain, and violent heat; an odd sort of trembling; a giddiness; epilepsy; with loss of sense, and wonderful succussion and contorsion of the head, limbs, and whole body; universal cramps, flux of blood out of the ears; a tumour about the bigness of one's fist at the pit of the stomach; hiccoughs; endeavouring to vomit without discharge; swelling
of

of face and belly ; and a flux of green froth out of the mouth after death.

Whence we may plainly see, that the true indication of cure in this, and all other poisonous plants, that by way of irritation act like it, is to discharge the stomach of as much of the herb swallowed, and as speedily, as we possibly can ; and try moreover to blunt the acrimony of what is behind ; and lastly, to restore the spirits, spent through the violence of the symptoms, and forceable evacuations ; or to raise them afresh when oppressed by the venom, and interrupted circulation of the blood ; to correct the faults of the stomach and intestines, whether from inflammations, or denudation of the nervous coat, or ulceration thereof ; and to restore and preserve the strength by a due regulation of proper drink and diet ; as milk, rice, calves feet, and other softning jellies.

But the very first and best thing to be done is, to cause the patient to cast up the hemlock swallowed, whether the juice or substance, by a mild diluting emetic ; for which purpose pour down plentifully luke-warm water and oil, or butter, if oil is not to be had, till they
pass

pass off both ways, and wash the first passages quite clean, by forceably carrying off their contents.

But if nevertheless the stomach, for all thus assisted to throw it up, does not answer expectation, and vomiting is delayed too long, stronger emetics must be made use of: as an ounce or two of oxymel of squills, or sea onions, or a dram of white vitriol; or decoction of the green husk of walnuts: and while these are tried, fat glysters, and suppositories of honey and salt boiled together, or with hiera picra; soap, sal gem, or the like irritating ingredients: for clysters and suppositories dispose the peristaltic motion of the intestines tending upwards to move downwards; but no purge should be given but a very gentle one, for fear of increasing the reverted motion of the intestines.

After the hemlock, by evacuation both ways, is thus brought out of the body, as much as can be, generous wine should be given, and sweats also, to answer some of the other intentions of cure; to keep up the spirits; and to expel what venom has reached the blood-vessels, through the pores of the skin.

But

But in case the stomach and guts are corroded, or ulcerated, season not meat with spice, much less use vinegar, nor even wine too freely, but give barley water, with raisins and anise.

Tagus tells us, he cured a woman who had eat hemlock by a draught of good vinegar; probably the acid of the vinegar might enervate the poisonous acrimony of the other, for alter but the texture, and you alter the quality of any body directly. But yet it should be exhibited after you have discharged as much of the hemlock by emetics as possible, and before the coat of the stomach is ex-coriated.

However, for as hurtful as hemlock of any sort, and in any form, may be when within the body, yet with a proper hand it may be safely applied externally to very good purposes: to discuss and dissolve glandulous swellings, for which this plaister is very powerful: take of juice of hemlock four ounces; vinegar of squills and gum ammoniac each eight ounces: dissolve the gum in the juice and vinegar, by a gentle infusion on a warm sand-heat; then strain, and reduce it to the consistency of an emplaister.

This

This eases pain, especially in the spleen and gout : experience, the best teacher, has confirmed it. It is excellent also to dissolve schirrous, and other hard tumours in any part of the body, chiefly those of the liver and spleen, and also those of the joints. The hotter the climate producing hemlock, like all other venom, the more powerful and poisonous it is, as is even that of animals also ; heat adding, as it were, wings to their virulency.

Of hemlock there are three principal sorts. The common ; the lesser, or parsley leaved ; and the water, or marsh kind. Of the common hemlock there are also two *species*. The less, and the greater ; and of the third there are even three distinctions : that with white flowers ; the other with red flowers ; and the marsh, or water hemlock.

2. The *bulbous root of crown imperial*, taken inwardly, hath almost the same poisonous effects as *cicuta* or hemlock, therefore requires the like method of cure.

3. *Spurge*, of which there are half a hundred sorts, are all sharp, corrosive and malignant ; and when taken inwardly purge violently both upwards and downwards,

downwards, as I was witness of once in a strong man, who had taken it of his own head, and had he not called me in for assistance, would have run great hazard of losing his life thereby.

They too excoriate the stomach and intestines, have a very caustic quality, as most milky herbs possess, almost equal to the poisonous quality of hemlock itself, and to be equally cured the same way.

4. *Euphorbium*, is a very caustic gum, of the like pernicious nature, used externally only to help to exfoliate carious bones, but dangerous if taken into the body.

5. *White hellebore* is another of the high caustic kind, and fittest for external use: mixed in powder with cream, some country folks use it to cure the itch with; the same may be said of too rough emetics and drastic purges: as scammony, elaterium, or inspissated juice of wild cucumber, and the like; two powerful drugs, I fear, made too free with in practice to the hurt of the patient: but the dead can tell no tales; yet such bold adventurers may be ashamed of themselves. I knew one who indiscreetly giving a babe
some

some tartar emetic for a vomit, by so poisoning the infant, killed him directly. My eldest son, now a Clergyman, near thirty years ago, narrowly escaped death from such a vomit given to deceive him by the smallness of the quantity, dissolved in white wine, when about five years of age. It caused violent colic, syncope, and cold sweat; wherefore I never since have ordered tartar emetic to children, it being better to repeat a weak medicine often, than to run hazards of doing a quick cure by any violent one all at once.

6. *Aconitum*, or wolfs-bane, is another poisonous vegetable of the caustic kind, of which likewise there are many sorts, so called because a bane to wolves, dogs, and other animals. The heads of arrows dipt in its juice kill all they hit.

7. *Bearsfoot*, or bastard black hellebore, is another acrid herb, used by women and quacks, to kill worms, taking ten grains in powder; or by way of decoction, it never fails killing worms, but sometimes the patient also, therefore is too dangerous to be inwardly exhibited. See a discourse of mine on this plant in *the Oxford*, and in *the Town and Country Magazines* for March last.

8. *Napellus*,

8. *Napellus*, or helmet-flower, or monks-hood, is a species, or of the stock of wolfs-bane. It is a deleterious and mortal poison both to man and beast, even to rats and mice. That this monks-hood as well as wolfs-bane taken in substance is, as being very poisonous, a most dangerous drug, is allowed almost by all physicians; nay except assistance be immediately had, the patient can scarcely be relieved by the most approved antidotes; and sometimes not at all: As was proved by that accidental, but fatal instance that happened some years ago at Antwerp, where certain ignorant persons gathering a sallad in the garden, at a public treat there, among the variety of herbs unfortunately picked *Napellus* or *Luparia* also, which with other things were unluckily served up at table, when all who eat thereof were soon seized with most severe symptoms, and after undergoing all the violent tortures for some considerable time, miserably died at last.

The several symptoms succeeding the taking wolfs-bane and monks-hood, are, swelling of the lips, tongue and face; starting forth of the eyes; vertigo, syncope, faintings, horrors, madness and
lethargy;

lethargy ; all which happen ; and if the intoxicated persons should escape, they are yet seized with an hectic fever at last. As to the remedies against such dangerous poison, after as much of it as can be is thrown up by vomiting, and the succeeding method has been duly observed, as above ordered in the cure of poisons in general, powder of contrayerva root, from a scruple to a dram for a dose, exhibited in fresh treacle, made according to our dispensatories, is much commended. Some cry up highly the juice of radish taken inwardly, as a most certain remedy, which when in season may soon be had out of the garden, and easily tried.

Thus much of these, and all other such like venomous vegetables which act from acrimony, that by over stimulating the stomach and intestines cause pain and inflammations, which soon tends to mortification, and at last ends in death.

But besides these common, caustic, corrosive poisonous plants, there are also another tribe, which act quite otherways, and that more immediately and principally upon the nervous system, producing stupifaction and the soporific effects of narcotics, by putting a certain and sudden

sudden damp, or clog on the animal spirits, and causing an insensibility of the nerves, and finally, a total stop to the circulation, and consequently extinguishing quite the animal life. Having produced some samples of the former corrosive sort, we will next briefly run over the principal plants of this latter kind likewise.

Of poisonous Vegetables that kill as narcotics.

1. *Cocculæ* of the shops, or *baccæ cocci Indici*, are deservedly reckoned among vegetable Poisons. For among beasts, as appears from *Wepher's* experiment, they are very pernicious, and what are likewise used by those who rob ponds, to benumb the fish with, and which they will effect so far as to deprive them of their sensibility, and consequently agility, so as to be suspended immoveable on the surface of the water, till easily caught by hand, and which fish if directly gutted are sufficiently sound and safe, as to be securely used at table for food.

2. *Nux*

2. *Nux vomica*, is also a strong narcotic, and violent Poison. It is used to kill cats and dogs, who, as soon as they have swallowed it, do in a few hours die convulsed. Formerly a few grains thereof was ordered to patients as an opiate, but as it is but a coarse one at best, it is now become quite out of practice, and opium, a grain or two, is used in its room. For was nux vomic used but a few grains in a dose too much, doubtless it would have the like deleterious effect on ourselves, it has on the brute creation. It is no less pernicious to the feathered tribe, as appears from frequent experience in killing crows, ravens, and other field vermin therewith, by strewing the fine raspings thereof (for being of a horny substance it is hard to powder) on pieces of bullocks liver, or other portions of raw flesh.

I well remember, that many years ago when I first left college, and was at my father's, an old woman, a farmer, bought some nux vomic with intention to kill crows that infested her fields; wherefore she carefully boiled it along with some wheat, that that grain, impregnated with its narcotic quality, might entice those

B

vermin

vermin to pick it up ; but setting it by in her back-house uncovered, her large stock of ducks unluckily got to it, and gobbled it all up; the sad consequence of which bad accident she afterwards told us with a sorrowful countenance and great concern, was, that she lost most of them; yet with some small satisfaction, that those giddy ducks, which happened fortunately to betake themselves directly to the pond, recovered, but all those who loitered behind, till the Poison took effect, went off in their sleep.

Now the reason why the cold water cured those that got to it, might be by these two ways: by their drinking plentifully to abate their great thirst, they, by diluting the intoxicating Poison, weakened its force and operation; and another help might be, from the coldness of the water to their hot feet and heads, whereby they cooled their overheated brains, and so surmounted the operation of that soporific nut.

3. *Black Hen-bane*, is another poisonous sleepy plant, easily distinguishing itself by its vile, disagreeable foetid smell, by eating of whose root, these following
singular

singular symptoms are occasioned : stupifaction of the limbs ; languishing of the spirits ; a general itching all over the body, (a peculiar symptom too of taking too much opium ;) depravation of the mind ; with crying-out, delirium, vertigo, loss of sight, difficulty of breathing, and suffocation. Yet the seeds of *White Hen-bane* are ordered by Esq; Boyle, and others, as good against spitting of blood, and other disorders, but require judgment whenever used as a medicine.

4. *Taxus*, or *Yew-tree*, is deadly to men and cattle, both the leaves, juice, and berries. The effect of this Poison is manifest from these symptoms ; a universal coldness felt all over the body ; danger of suffocation ; bloody-flux ; and the patient most commonly dies a sudden death. After a due evacuation both ways by emetics, strong wine should be freely used, in which has been first infused wormwood, zedoary, snake-root, cardamoms, or other aromatics.

5. *Solanum Lethale*, or *Bella Downa*, in English called *Deadly Night-shade* ; is a most malignant, stupifying, poisonous vegetable ; the red berries of which are but too incautiously eat by children,

which they term wild-cherries, and are tempted by their beauty to taste of the same. The symptoms succeeding which, are violent thirst; hoarseness; heartburn; an heavy stupidity; blindness; depravation of mind; delirium; a tension of the hypocondria; convulsions; apoplectic affections; and death.

Salmon, in his English Herbal, folio, page 781, tells us of one *Job Taylor*, a gardener's son of *Lyn Regis* in *Norfolk*, his play-fellow, who eat about a dozen of great berries, as big as large cherries, that grew in an orchard near the south-gate. The boy was about seven years of age, who was mortally poisoned thereby. He died in a violent fever, swelled in the stomach and belly; the whole body being all over as red as fire, and all this in about two hours time: for which fatal accident the owner of the orchard had the humanity to have the noxious shrub rooted out of his ground, to prevent any future mischief from the same.

This prescription is accounted an excellent antidote against this kind of Poison, *viz.* vinegar of lavender two ounces, mixed with as much water, to be drank
for

for a single dose, going directly to bed, and repeating it if you see need.

6. *Mandrake* is much akin to the former, and as a narcotic to be cured the same way. Not such mandrakes as *Leah's* son gathered in the fields, which, more likely, was some fine flower that the Ladies looked upon with such good liking, and not noxious roots, that possess no such engaging beauty.

These narcotic vegetables last mentioned are somewhat of the same nature with our opium, as to the particular species of their malignity and manner of operation; wherefore to that very article we refer for the right method of cure; as the same *modus medendi* is equally suitable to all such soporiferous drugs alike.

7. *Mushrooms*: these funguses, the very lowest sort of the vegetable kind, are many of them likewise strongly venomous; but from quite another cause; not intrinsic, but extrinsic; from a little serpent-like animalcula, that lodges and feeds upon these anomalous plants.

Of these I have already wrote; to be seen in the Supplement to the *Gentleman's Magazine* for December, 1768. whither,

to save repetition, I refer you. There I have shewn, that it is not from the essential nature of that speedy-growing plant that any poisonous property proceeds, but from minute animals, of the serpentine shape, like so many little snakes, lodged therein, that their deleterious quality arises from; which if well cleared of by fumigation with brimstone, and shifting the pickle they are preserved in often, may be as freely eat without danger as any other usual sauce served up at our tables.

Those mushrooms of the worst, or venomous kind, occasion the troublesome sense of suffocation, or strangling, in the *fauces*. They swell the stomach, occasion hickups; produce in some the *cholera morbus*, and sometimes even an epilepsy, syncope, and cold sweats, a deep sleep, and other odd symptoms, and even death itself; as have in several physical histories been well attested. The cure consists in vomiting, purging, and generous wine.

8. The *Laurel Tree*, is another poisonous vegetable, and but lately discovered in *Ireland* to be so. The leaves were used formerly to communicate a
fine

fine flavour to rich puddings, and cordial waters ; for a full account of which, and experiments since made therewith, I refer you to the *Philosophical Transactions*. And it is unknown how many have insensibly lost their lives from the use of this tree, without ever so much as suspecting the cause thereof.

9. Now lastly, as to *Opium*, the chief Anodyne of the shops, it is either deleterious, or not, just as you make use of it. This is certain, it either does good or hurt, according as it is judiciously or indiscreetly administred.

The manifold virtues of this surprising inspissated juice of the poppy cannot be sufficiently commended ; because, when properly applied, it procures to our bodies most pleasant ease and rest under the most excruciating pain, when patience can hold out no longer, quieting for a time all uneasy sensations ; and so procuring a truce with the disorder, till nature or art do their best to prevent a return thereof.

But, *corruptio optimi pessima fit* ; for if taken in too great a dose, or that repeated too often, every one knows it

proves rank Poison. Wherefore the greatest prudence and caution are ever to be observed in exhibiting *Opium*; as that if it does no good, it will be sure to do hurt.

Wherefore no narcotic is to be called in to our assistance which so stupifies the senses, except upon extraordinary occasions, and where pain becomes intolerable, and may be productive of more mischief, if let alone, than an opiate can be when used. Wherefore, when the strength of the patient, from the violence of the torture, sinks too quickly under it, and that upon the pain's ceasing he may recover fresh vigour to struggle against his disorder, it may be very proper to use an opiate, if it were only for a little present respite or reprieve; else it is always best omitted where there is no necessity for it.

And yet for all this, wonderful it is to see how much, merely from use, some people can swallow of this soporiferous gum, without any manifest mischief; which shews that saying true: "Custom becomes a second nature." Yea, I have seen some take the bigness of a large pea,
or

or small nut of plain Opium at one dose; that would undoubtedly be the death of any person that had not by long use accustomed themselves thereto.

And strange it is to see also, how much those patients who labour under a *cholera morbus*, or *locked jaw*, can safely bear of this benumbing drug, and on which their cure too principally depends; a quarter part of which they could not possibly bear with when in health, or after restored to a sound state of body.

But to consider *Opium* here, and its various preparations, only as a Poison, having already treated of it elsewhere among my many occasional Medical Writings in *Magazines*, and other public papers, as a Medicine; which detached pieces, (as to their success, and whose hands they fall into, I know not;) put me therefore in mind of the *Cumæan Sibyl* in *Virgil*, who used to write her prophecies on leaves of trees, and then trusted them to the wings of the wind, fortuitously to be dispersed about: which made *Æneas* request her, with the following petition, and has caused me to commit this, and my other piece on

Childrens Diseases, to pamphlets, that they may be always ready at hand for those that want them.

—— *foliis tantum ne carmina manda*
Ne turbata volent rapidis ludibria Ventis:
Ipsa canas oro.——

Opium, taken in too great a quantity, has all these ill effects; a burning heat at the stomach, with a sense of weight at the same; a wonderful cheerfulness at first, with the *Sardonic* laughter, (like the farewell blinking of a burnt-out candle;) an universal relaxation and weakness of the limbs; a depravation of the mind; a loss of memory; great dullness and frightful appearance of the eyes, to even blindness itself; or, by the relaxation of their coats, several colours appearing before them; blabbering of the tongue; stupidity; a slow pulse; red flushing of the face; a falling of the lower jaw; swelling of the lips; difficulty of breathing; fury; madness; fallacy; with violent itching all over the skin; nausea; vertigo; comatous disorders; apoplexy; vomiting; hiccups; a dis-

a disordered pulse; convulsions; cold sweats; syncope; and fainting-fits; coldness of the breath; and last of all, death. All these several symptoms scarce ever happen to one and the same person; but some to some, and others to others, according to their different constitutions, and the quantity of *Opium* taken.

And here I must observe again, how very singular and surprising it is to see how much *Opium* may, nay must, be taken for three several Nervous cases, and that too without disordering the head; which, in time of health, would certainly quite overset the same person to make so very free with, viz. the *Cholera Morbus*, the *Tetanus*, and the *Locked Jaw*. A particular account of a patient of mine under the last Disorder, you may meet with in *The GENTLEMAN'S MAGAZINE* for November 1765.

The *London Medical Observations and Inquiries* afford us no fewer than Four well-attested instances of cure in this terrible disease of a *Locked Jaw*; though I was not so fortunate with the young Farmer I was called to; all which were owing to *Opium* and warm baths only, after

after all other means had been tried in vain. In their first case, forty drops of liquid laudanum was repeated at least every six hours ; after which three grains of solid opium were given three times a day in its stead ; and then the dose was gradually lessened to a single grain a day ; and she did well. The other patient took no fewer than 317 grains of pure opium in about five weeks time, besides several draughts with liquid laudanum and syrup of poppies ; and likewise recovered. — So you see opium is either good or bad, according as it is properly used ; but ordinarily by too large a dose it becomes poisonous.

The method of cure for an over-dose of opium consists, as aforesaid, first in casting forth by vomits as much as possible, and those of a speedy operation ; as a dram of White Vitriol dissolved in warm water, or broth, and several times repeated, directly, at every motion upwards. And if the Poison has reached further to the intestines, sharp clysters should be often injected ; and next a dose of cream of tartar ; as half an ounce at a time in whey ; and then antidotes
against

against opium are to be duly exhibited; among which lixivial salts are of service, as also white or tartarous soap. A draught of old wine is also commended, or spirits of wine with the white of an egg, to clear away the viscid rosin, which is the most pernicious part of opium, adhering to the coats of the stomach. Lastly, acid medicines, as vinegar, are to be made use of. The person is to be kept awake as much as possible, and to be exercised as much as can be, by exposing him naked to the cold air, and in desperate cases even plunging him into cold water is recommended.

10. *Vinous Spirits*, and distilled intoxicating liquors, are another family of Poisons; and though slow, yet are certain in the long-run; and when taken too excessively at once, have often proved as speedily fatal as Poisons of the other kinds. Devouring such hot liquors have destroyed many. *Spirits of Wine*, taken inwardly, are detrimental to animals by coagulating the blood; and bestowed on vegetables by way of nourishment, not even the vine itself excepted, surely kills them; and unless a patient will forbear
hard

hard drinking, it is needless to apply to a Physician; as it is impossible to cure such, while they are determined to tipple liquid fire; which will extinguish all concoctions, enervate the solids, and corrupt the fluids, if not kill them directly on the spot.

This puts me in mind of a youth, a Bricklayer, who had made himself dead drunk with his beloved Gin, and lay so, insensible on the highway at *Steeple* in *Dengy* Hundred, whither I was sent for to a patient: his neighbours and attendants came to me for Advice what they should do to him to save his life? I bid them plunge him into a pond of water; but unluckily it was so dry a summer, that none near had water enough to cover him; wherefore they threwed pails-full of cold water all over him, which excited only some small muscular motions; and he soon died, paying dear for his folly.

And as for the fatal effects of *Opium*, I have been witness of Three: the first was, from a young Apothecary giving a weak woman an over-dose at night, whereby she was found dead and cold next morning by those that entered her Room.

Room to visit her. The second was a tenant of mine, who had a vial of opium given him by his wife, instead of an infusion of senna, that stood close by it; which carried him off next day raving mad. The third was an infant-son of my own, about a year and half old, who, upon eight drops of laudanum being given him, and then laid in the cradle, I observed an uncommon cheerfulness in his countenance, and vivacity in his eyes, which was soon followed with a frightful flagging and shortness of breath; I whipt him up in my arms, and ran about the room with him, tossing him up and down to wake him, but in less than half an hour after he had taken the fatal draught, he gave up the Ghost.

Thus far of *Vegetable Poisons*; next of *Animal ones*.

II. *Of Animal Poisons.*

IT follows next in course to give account of such Poisons as are communicated to mankind the other way before spoken of, *viz.* Externally, from venomous Animals; and which infect the blood either by *Biting*, *Striking*, or *Eating* the same.

Of this class *Serpents* challenge the first place. By the biting of all sorts of which tribe, the poisonous juice is infused into the wound made by their teeth in the instant of biting, by which all the subsequent deadly symptoms are directly occasioned.

Authors assign the Poison of a *Viper* the middle place, betwixt those that kill immediately, and those that destroy by slower degrees: wherefore the *Viper* shall here serve for a sample of all the rest.

1. The *Viper*, as the name imports, is a Viviparous Animal, that is, is brought forth alive, whilst other creatures of the serpentine kind are Oviparous, or hatched
from

from eggs, as lodged in dunghils, and other warm places.

Those that are bit sometimes die in the space of seven hours, and sometimes not before the third day. Vipers are very angry animals, and their bite more mortal in summer than any other season of the year ; and consequently more hurtful in hot countries than cold. The reason is evident, heat much increasing motion ; and which is equally true in respect of all kinds of Serpents, and other Poisons whatever.

There lie two remarkable conglomerated glands on the fore-part of the Sin-ciput, made up of many more small ones, that are covered with a common membrane, every one of which hath an excretory duct ; all which uniting, form a common canal, running down to the roots of the perforated *Dentes Incisores*, and there deposit a yellow liquor into small bladders, separated from the Viper's blood, according to the general laws of glandular secretion, scarce exceeding a drop in quantity ; which venomous fluid, Dr Mead, in his excellent *Treatise of Poisons*, tells us, appears through the microscope

croscope full of very minute saline particles, like spears, which by cutting destroy the crasis of our blood, and causes coagulations therein (to make comparifon) like curds and whey.

Now what proves Death to us, is Life to the animal it naturally belongs to; for as its juices have but a flow motion; and it catches his prey alive, and but feldom; draws breath feldom, and lies dormant or benumbed great part of the year; and as it fwallows what it feizes upon, it needs its poisonous liquor much to ftop the struggling of its live prey, and kill it as foon as entered the ftomach, and to digest the fame when got down thither; fo that wife Nature, who does nothing in vain, we fee, intends this very liquor for good purposes to thefe animals; and it is our bufinefs to look out, and cautiously to avoid receiving hurt therefrom; for fuch creatures muft not be denied their benefit by it, becaufe we may accidentally fuffer from the fame.

The fhocking fymptoms confequent on the bite of a Viper are thefe: Acute pain, with a pricking in the wounded part; a tumour, firft red, and then livid,
gradually

gradually spreading broader in the neighbouring parts; the skin grows hot, with bladders breaking out, and in progress of time a considerable languishing ensues; aguish pulse, weak, and sometimes intermitting; palpitation of the heart; stupifaction of the senses; anxiety at heart; great sickness at stomach; with colerick vomiting, dulness of the eyes; sometimes pain about the navel, or region of the liver, with jaundice; a difficulty of breathing; hiccups, tremblings, convulsions, clammy sweats; coldness of the extremities, and death at last concluding the catastrophe.

Unless the mischief received be soon removed by proper means, or the peculiar vigour of the wounded person, whereby his innate vital strength subdues the Poison, which but rarely happens, if the person but should even survive all danger, yet a tumour with inflammation will continue; and sometimes a *sanies*, or filthy watery liquor will flow out of the wound, and some pustules like a *herpes exedens* will break out all around it, and the skin grow yellow as in a jaundice.

This

This infection may be called the venomous inoculation of Vipers Poison, as that of the grand pox was unexpectedly received through the scratch of a finger, by a Surgeon of a Man of War lately, from dressing the sores of his venereal patients ; for both are conveyed into the blood in like manner as the infection of the small pox ; which last, after long and stout struggling, nature of herself often expels, but the other infections require all the assistance of medicine that art can offer. It is evident it is possible for many other diseases to be suddenly communicated so from a sick person, to another in health, by the like means, could it, as in the small pox, answer any good purpose.

Hence we see that such ulcers should be dressed with instruments ; and those who lay women in child-bed, suspected venereal, should be sure none of the cuticle be wanting on their hands, least they be thereby subject to the like calamity also.

Now the reason of cure for such Poisons received into the blood from without, depends chiefly on these three indications :

cations: First, That the venom, as far as possible, be immediately extracted. Secondly, That it be prevented, all that can, from proceeding to the vital parts: and Thirdly, That what of the Poison has already penetrated the blood-vessels be expelled by alexipharmics, in like manner as was afore said of those taken in by the mouth.

The learned *Celsus*, whom some say, though a great writer, was no practitioner, different from Dr *Friend's* opinion in his History of Physic, comprehends the custom of the ancients relating to the bite of Vipers, thus: In the first place, says he, the member is to be bound about the wound, yet not too violently, lest it benumbs; then the Poison is to be extracted by applying cupping-glasses, after having made deep scarifications; or to be drawn out by suction, where there is no ulcer, or sore in the mouth, for Poison of serpents do no harm in the taste, nor yet in the stomach, but in the wound; or through an excoriated part; nor will it be amiss to make an incision with a knife all round the puncture. The wound afterwards

terwards is to be washed with spirits of wine, in which venice treacle or mitridate hath been dissolved. It is good also to apply to the wound a cock chicken split through the middle alive; or some of the flesh of a kid, or lamb, warm. It is proper for the patient to drink a little wine with pepper, or any other spice, that is capable of raising a heat, to prevent the blood from clotting within. For most Poisons kill by cold. Warm diuretics are also useful, because they thin the humours.

But the modern practice advises to hold a red-hot iron at a little distance from the wound presently after bit. This, says *Boyle*, so much dulls the venom, that it preserves the patient safe and well, nor will he suffer any harm, except pain in the part, which presently vanishes. But when the hand is in, for the Surgeon to clap the hot iron on the wound itself, before the patient is aware of it, and burn it deep, would be much better, and safer still, as it would effectually destroy the venom at once, before it could have proceeded further to infect the juices, and would be easily forgiven
afterwards

afterwards by the patient. Where this operation will not be allowed, wash the wound with salt and water, and lay salt upon it for a day or two after.

Vipers fat rubbed upon the wound, if done directly, has been lately found to be alone, and above all things, a present remedy : and since that, it has been discovered that sweet fallad oil, *i. e.* oil of olives, used the same way, has the like effect.

Inwardly give contrayerva in powder, snake-root, and other such like warm aromatics, with high cordials and volatile salts, to rouse the spirits and raise a sweat in bed, which keep up by drinking plentifully of white wine whey hot. There is no sufficient preventative yet known, nor can it reasonably be expected there should be such.

Some go to the high price of volatile salt of Vipers for an 'antidote, thinking there is some secret specific virtue therein, more than in any other volatile salt prepared from any other body. But this is all a mistake, for as such preparations are the products of fire, we have as little reason to expect that any intrinsic virtue
of

of the Viper should remain in its volatile salt, that has undergone the force of the furnace, as that any virtue of wormwood remains in the fixed alkali salt thence extracted by the force of the fire that burnt the dried herb: wherefore it is, that salt of tartar is now justly used for all the same intents and purposes, as salt of wormwood formerly in the days of less knowledge was commonly called in for, and answers the end as well, and at much less expence and trouble.

2. An *Adder* is of all serpents the most vehement. It makes so small a wound by its puncture as almost escapes the sharpest eye, scarce equal to the prick of a needle; yet even through that small perforation it infuses a small drop of Poison of great force, and so very pernicious, that it runs through the whole body in a few hours, and speedily kills, but without occasioning much pain.

The symptoms are a heaviness in the head, a mist over the eyes, a dulness of sense, a stupidity, slothfulness, sleepiness, paleness of face, coldness of the body, with frequent gaping and cramps; and at last, without speedy help intervenes,

veens, in a few hours time certain death. The cure is much the same as is used for the Viper and other venomous animals.

When I was a young man, a woman was at harvest behind our village with her husband, when perceiving her little dog engaged with an Adder, she indiscreetly, to take her dog's part, patted the serpent on the back with her clog, she pulled off on purpose. The Viper turning upon her, seized her by the middle finger, and bit her: on this she ran directly out of the field to my Father for help; when, I remember, he scarified it, and dressed it with spirits and venice treacle, there being not room enough to fix on a cupping-glass. By next day her arm, and all along the same side, was all over speckled with black and blue spots, from the coagulated blood; but she soon leaving the country, I knew not the consequence.

3. A *Spider*, as little an animal as it is, is very full of venom; of which too there are several sorts, and some more poisonous than others; yet they all prove pernicious after one and the same way;

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viz.

viz. by a *stroke* they infuse their poisonous liquor into the wound ; and even by falling accidentally into meat or drink, or by being designedly put therein, they have power to do mischief ; or even by being burnt, they are hurtful from their fume.

The symptoms are : in the place bit there is a stupor, and horror all over the body ; a swelling of the belly follows, with flatulencies in the intestines ; paleness of countenance, with spasmodic disorders and cold sweats ; a perpetual and vain desire, or essay to make water, together with troublesome erection.

For the venomous stroke of a Spider, the same method of cure serves as for bites of other poisonous animals ; only here the leaves of the fig-tree particularly are much admired as the grand specific for this kind of Poison ; for which, the dropping of the milk that flows from the leaves three or four times a day upon the wound, is very good ; for it extinguishes the force of the venom, eases the pain, and cuts off the very cause of all the usual symptoms that would otherways ensue.

Whenever

Whenever a Spider happens to be swallowed, bring it back directly by a vomit, and go to bed and sweat well. Take the dry rosin of the fir-tree; or eat garlick often, or drink wine mulled with spices, or pungent aromatics. Hence, we see it cannot be safe practice to prescribe Spiders to be swallowed for an ague.

4. A *Scorpion* is a very venomous animal, and the antidote against the Poison of its sting, says *Celsus*, a famous Latin Physician, is the bruised Scorpion himself clapped on outwardly, and used by way of dried powder inwardly (as some do dried mice against pissing the bed) with wine; others put it on the wound pulverised, after the same manner; and others again put it upon hot coals, and only fumigate the wound.

Garlick and rue, beat up together with oil, is what some use; but, preferable to all other applications, as the fat of vipers is a cure for the bite of a viper, so also is the fat of scorpions a cure for the bite of a scorpion. But as the fat of both these animals acts only as oil, and not from any occult, or ma-

gical property connate therewith, common sweet olive oil will answer the end every whit as well, and that only by attracting the venomous salts of these creatures poisonous juices to itself, and sheathing, as it were, their sharp points within its own substance, and so prevents their passing into the blood, and acting there as so many daggers upon the blood-globules, to the destroying their due texture, and coagulating the same. All this common oil can do, by acting after the same manner; as late experiments have convincingly proved, and thereby have brought it into common practice.

5. *Rubeta*, or a *Toad*, is, except its eyes, a very ugly animal, and as great an enemy to mankind as they are to it. He is full of venom, and therefore very properly called also: *Bursa terrestris Toxici*, “A bag of Poison from the
“earth.” It is, I say, much hated by man; and it, on the other hand, has as great an hatred against him. It is ugly all over, unless its eyes, which are very black, and would be accounted very fine and pretty, if the horror arising from its hideous deformity elsewhere, did

did not prejudice us in beholding their beauty.

Nature seems, as it were, to sport in the formation of some animals, as Toads, Monkeys, and others, and makes none every where perfectly ugly, nor yet completely handsome; for even the Nightingale is excellent only for her voice, as the Peacock is frightful for his note; and even the Peacock, as gay as he is in feathers, they say, is ashamed of his ugly feet; and a Monkey is frightened almost out of his wits at the sight of a Snail, and will cowardly fly from him, and fancy the Snail is following after him.

Though Toads have no teeth, they have hard gums, which being dry, they squeeze together so very close, that the part they fasten on has their Poison thereby driven into the pores by the compression, which is soon conveyed thence all over the body. Their venom, some say, (as others have held of the Poison of other venomous animals) consists not in any thing but their fury, but I think, in their excrements, especially in a sharp caustic urine impregnated with

a volatile salt ; which acrimony it seems to acquire from its singular nourishment, *viz.* those minute flies found in their stomach and colon. Dead Toads are said to be without venom.

However they throw out their venom when alive, by urine, spittle, and vomiting a frothy matter upon herbs, especially the strawberry, of which they are very fond. The venom of Toads is not only pernicious inwardly taken, but externally sprinkled on the skin also, unless the place is presently washed with urine, or salt water ; which shews there is more than mere fury in the matter.

Does not this overthrow the assertion of those who impute the poison of Toads to their rage, or fury only ? But so it too often is in Authors, where the same person shall contradict himself : rage assists to the effectual conveyance of their Poison, but the deleterious property must lie in some secreted liquor of the animal provoked. This was a long controversy once between two men of note, but was terminated in favour of a contaminating fluid at last.

The

The symptoms from Toads poison are these; it makes the person grow yellow like themselves; their whole body swells; and they blabber with black lips and tongue; they are seized with an asthmatic difficulty of breathing, vomiting and cold sweats; vertigo, syncope, convulsions; and last of all, death; and which the mere rage of the Toad alone could never naturally produce.

Wherefore, as often before said, vomit the patient as soon as possible, especially if the Poison was taken in at the mouth; and next give a glyster; then break the force of the remaining venom by means of warm alexipharmics, and attenuant medicines; as venice treacle, mithridate dissolved in generous wine; but last of all, to digest and carry off any more relicks of the Poison, use hot-baths, and strong exercise, if the patient can, to clear the body quite of such an hostile guest.

6. As to the *large Toad of Surinam*, that bears its Ova all over the surface of its body, some say, the female lodges them on the skin of the male; my account thereof may be seen in the *Maga-*

zine that goes by the name of *The Universal MUSEUM*, too long here to insert. It is very poisonous; and whenever such misfortunes happen, the cure may be managed as abovesaid for Toads of our own country.

7. An *Eft*; for as innocent as it may seem, yet, when enraged, it wants not its share of Poison, as well as the rest of the tribe, and admits the same method of cure as that of a Toad abovesaid; and which the following case is a full proof of.

When I went to school to an uncle at *Bathgate*, twelve miles west from *Edinburgh*, there lived a young servant to another uncle, who told me, that as she, with several other women, were weeding lint, on their knees, one of the company seeing an *Eft*'s nest just before her, out of indiscreet sport asked her to change places; accordingly she did, but happened to kneel down upon the *Elf* and her young ones; when feeling some wriggling, instead of standing up to see, she unguardedly put her fingers to feel, when the Mother-*Eft* seized her by the finger; the pain and fright of which hurried

hurried her home through the town of *Linlithgow*, where she then dwelt, with the enraged Eft hanging down from the part it firft fixed upon; a man meeting her, looking on, having a fwitch in his hand, whipt it dead before it would let go its hold. The maid's arm fwelled up to her very body, and it was with difficulty, by the fkill of an able Surgeon, her life was faved.

8. *Cantharides*, or *Spanish Flies*, are, like Opium, either good or bad, juft as they are ufed. Applied outwardly they fometimes hurt the bladder, and have even brought an inflammation thereon; they often occasion a ftranguary, and even excite to bloody water. Taken inwardly, they corrode almoft all the parts of the body, from the mouth to the anus. They inflame and ulcerate, which occasions a burning fever. From their refinous fubftance, the tafte of cedar or pine is plainly perceived in the mouth. More of which may be met with, and the proof that their cauftic property proceeds not, as is commonly thought, from any animal falt, in *Say's CRAFTSMAN* for *March 28th, 1767*.

It is from an animal sort of resinous substance they act, and irritate the pores by ; and so produce pain, and all their other dreadful symptoms. They are peculiarly troublesome to the urinary passages, both because of the delicate tenderness of these vessels, and the congregation of those irritating resinous particles collected within so narrow a compass as the kidneys and ureters. Hence we see how cautious we ought to be in using such doubtful and dangerous instruments ; which, though so minute as to be invisible, can do execution as certainly as sword or pistol.

Yet we must not lose the benefit of such a valuable drug ; as when properly applied no one is more effectual in relieving bad symptoms, and curing a disease, and what none else sometimes can do so well besides, particularly in an old gleet, leprosy, fixed local pains, and several other disorders, that oftentimes will yield to nothing else : wherefore the Tincture of Cantharides was a grand specific with Dr *Mead* for the first disorder. But as some delicate constitutions cannot well bear even twenty drops, while I
have

have ordered above one hundred to others, for a dose; it should be regulated so as not to bring on a stranguary; which, as as soon as they feel, they should forbear till it wears off, and then return to it again.

As to the cure for Cantharides, when become noxious; if swallowed, they should, as in all other Poisons received inwardly, be ejected as soon as possible, only with a vomit of lukewarm water, or fat broth; diluting glysters and oily mixtures are also to be injected, both to obtund the acrimony, and bring away that pungent poison. Warm new milk, emulsions of the cold seeds, or of sweet almonds, sperma ceti, all oily and mucilaginous substances, jellies of any sort, and lemnian earth, are very proper for the like purpose. But above all things, (witness Dr *Greenvell*) gum camphire, either by way of julap or pills, mashed up with blanched almonds; which by attracting the pungent adhæfive rosin of the flies, is most certainly a grand antidote, five, six, or more grains for a dose.

9. *The Bite of a Mad-Dog, Cat, or other mad animal.* This is the most terrible

terrible poison of all in being, and often attended with the most melancholy and shocking effects that can possibly befall poor mortal man. Many have been the recipes, and nostrums cried up for *infallible* in the cure of this dreadful calamity ; but alas ! they have all, in their turn, sometimes failed of success : and as yet we have no one specific that can at all times and on all occasions be wholly depended upon. Even the ancient and ever-esteemed immersion in salt-water, with Dr *Nugent* of *Bath*, I likewise look upon to be little worth : and the many that have died raving mad, even after often dipping, is a plain proof thereof. The Doctor, in his excellent treatise on this horrid distemper, assures us, he cured a young woman, even after the last and most fatal symptom had seized her ; which gives us hopes, that in time even this, as yet unconquerable, disease may be overcome also.

But as this is not a place to be particular in, I shall only mention those three best medicines we as yet well know of. After bleeding at the beginning freely from a large orifice, next give glysters of
salt-

salt-water. Dr *Mead's* powder : ash-coloured ground liver-wort 4 drams, black pepper 2 drams in powder, mix them for four doses. Take one in warm milk fasting, for four mornings successively.

Another famous specific is, the *East-India* medicine. Cinnabar, native and factitious, of each 24 grains; musk 16 grains, mix to be taken in a cup of arrac or brandy. It is said to secure the patient thirty days; at the expiration of which it is to be repeated in three hours, which is said to be sufficient for a cure. Opium is to be used in the hydrophobia, and drinking draughts of vinegar is said to have even cured it. With *Hoffman* I prefer a warm, before a cold bath.

The third specific is *Wood-honey-suckle*, that for the beauty of its long purple flowers is often transplanted to make arbours in our gardens with. The virtue of this simple was about three years ago communicated to us abroad with great recommendation. To be taken at any time, and any way, without any strict regimen. The leaves or flowers are eat, as some do sage, on bread and butter; or
in

in powder; or by way of decoction, and the root in winter, when no other part is to be had. It is said to be a certain and sovereign cure, both for man and beast; and, with other things, it may be well worth the trying.

10. Lastly; *Mechanical Poisons*, as in some sense we may call them, are worst of all, because incurable. For though such are not venomous, as the subjects of the two former tribes are, yet as they are entirely undigestable, multangled, and immoveable, stopping by the way, and adhering to the coats of the stomach and guts, like so many little knives or lancets, they cut and wound the animal fibres of those bowels; so that there are but small hopes of relief, much less of a cure. Such are the *Powder of Diamonds*, *Crystal*, *Glass*, *Filings of Metals*, and the like; which, from the very mode of their painful operation, may not improperly be termed *Mechanical Poison*; which, as I said, when taken by any means into the body, like so many small swords, stab, cut, and wound the coats of the intestines, and thereby cause inflammation, mortification, and flow or sudden

sudden death, which is even past the power of art itself to prevent.

III. Of Mineral Poisons.

THIS head brings me of course to the *third* and *last* class of Poisons, those of the *mineral Kingdom*; the most common and remearable of which, we shall run over, whether natural or artificial, briefly in their order.

I. That *Arsenic*, or *Rats-bane*, holds the first place among mineral Poisons, is well known even to Barbers, and almost any body. It is of two sorts: Native, just as dug crude out of the earth, and Factitious. The Native, or natural kind, is again twofold; *viz.* Auripigmentum, because yellow, and Sandaracha, which is red. The Factitious is likewise double, made from these by chemical sublimation. The one, of Auripigmentum, called *White Crystalline Arsenic*, looking like white marble. The other of Sandarach, which is simply called Arsenic.

any

any sort of them taken into the body occasions almost the same sort of violent symptoms; yet Sandarach is milder than Auripigmentum, and that than White Cryſtaline Arſenic, which is the ſtrong-eſt, and therefore the moſt poiſonous of all.

Arſenic inwardly taken, diſcovers its virulency, firſt by purging, vellicating, irritating, and burning, which excites moſt violent heat and pain in the ſtomach, with vehement tortures in the inteſtines, and ſtrong vomiting, unextinguishable thirſt; a great dryneſs and roughneſs of the tongue, fauces and gullet; hiccups, violent anxieties, palpitation, faintings, coldneſs of the extreme parts. Sometimes vomiting, with black ſtools, fetid, and cadaverous; next a gangreen and mortification of the ſtomach follows; and laſt of all, to conclude the cataſtroph, a moſt painful and miſerable death.

As to the cure, univerſal evacuations being made upwards, as already directed for all Poiſons in general, thin, ſoft, diluting, watery, oily, and mucilaginous medicines, are the moſt proper. *Weſpher* ſays, that Bezoar mineral with butter obtunds

obtunds the acrimony of this kind of Poison.

Even the anointing with what has Arsenic in the composition, is likewise very dangerous: sad instances are in several Physical Authors of those who have died miserably, of others who have lost their senses, and of others again who became lame from such dangerous mixtures. And there was an account in the public papers a few years ago, of a wretch who killed two infants by anointing them for scald heads with an ointment that had Arsenic therein.

2. *Quicksilver* cannot of its single self be reckoned a Poison, or classed among deleterious drugs, for it is well known many ounces have been swallowed, and lodged a whole fortnight in the intestines without damage. Doctor *Dover's* Coachman, afterwards mine, told me, his Master, upon failing in fortune, went abroad for a time; after which, on returning home, to make his fortune, he set up his new method of swallowing *Quicksilver* for most chronical diseases, by wholesale. A little before his decease he left a dear book, intitled, *A Legacy*,
for

for which kind of charity the Poor are but little beholden to him. In which, to shew his weakness too, and no one is without his share; he speaks against vomiting, as an unnatural motion, when it is one of the most beneficial ways of evacuation, upon occasion, of any in nature; and in some cases there is no doing good without it: so is a violent flux an unnatural motion, and Nature herself relieves her oppression both ways, as she sees most fit.

Yet, as innocent as the internal use of crude mercury may be, the external application of the same is often of pernicious consequence, especially if used on infants heads, by throwing them into convulsions, and causing palsies and other disorders, where it has been made too free with in the itch, and venereal disorders. An instance of the first kind happened not long ago, of a child being thrown into convulsions from the use of a mercurial ointment on its head. Wherefore beware. It has been suddenly fatal to many, occasioning tremblings, stupidity, palsey, caries in the bones, and perpetual lameness. I lately received a
letter

letter from a public patient in *Hertfordshire*, requesting advice for a paralytic disorder in his arms, occasioned by an ointment advertised in our daily papers for the itch. I advised him to undergo a gentle salivation, to drive out one Poison by another.

In others it produces an ill habit of body, scarce ever recoverable; and some, by only wearing Quicksilver girdles, a custom now not so common as it used to be, have had all those parts below the girdle become numbed and paralytic, that yielded to no method of cure, though many were tried, for a long time; till at last he was sent to *Bath*, says Dr *Allen*; but returned very little better. All other means thus proving in vain, at last, by a salivation raised by mercury, and a decoction of the woods, the Doctor quite freed him of the distemper.

And yet for all this danger, nothing is safer than my Quicksilver-water, made either by long shaking the mercury at the rate of four ounces to two quarts, in a bottle with the water; or rather, by boiling half the water away. This excellent

cellent and simple preparation of Quick-silver, as I have often mentioned in many of my Medical Pieces, may be used without the least danger, either inwardly or outwardly, for worms, and all cutaneous feculencies, in either man or beast. Esq; *Boyle* takes notice of this water at the end of his *Sceptical Chemist*, and recommends it as a safe wash for Ladies faces.

But though pure Quicksilver *per se*, be so safe, yet several of its chemical preparations are very poisonous; wherefore whenever prescribed, it should be with all the prudence, skill and caution possible.

3. Though *Crude Mercury*, I say, is not violent in itself, yet some of its preparations in chemistry are certainly most venomous: such as the *Precipitates* thereof; and the *Corrosive Sublimate Mercury*, taken but a few grains inwardly, produces the worst symptoms of them all.

Such compound bodies, constituted of ponderous Quicksilver, and acute Salts, act so violently from mechanical principles, the gravity of the one driving

ing the points of the other into the membranes of the stomach, that by pricking the same as with so many pins and needles, they cut, wound, and corrode the animal fibres, so as to create intolerable pain; which brings on an inflammation, or partial stoppage of the circulation of the part irritated, which produces a mortification, that ends in death.

Thus upon the first touch thereof it consumes all before it like a burning fire, so that whenever taken inwardly, either by accident or evil purpose, the tongue and fauces are directly affected; tormenting pains seize the stomach, a swelling of the belly succeeds, most violent vomiting attending, with the utmost straining nature can exert; a mucous, frothy matter, and sometimes blood, is discharged; and what is discharged downwards is much of the same kind, and most frequently with excruciating pains, with an inward burning heat and insatiable thirst, great swelling and inflammation of tongue and fauces, with tremors, faintings, cold sweats and convulsions, and in a short time after the bowels being gangreened,
the

the unhappy person dies a most miserable death.

Alas! says Dr *Allen*, to whom I am beholden for some of these remarks, there is scarce a remedy equal to so great an evil. The basis of the cure consists in the greatest speed: the *principiis obsta* was never more necessary to be strictly observed: what is or can be done in the case, must be directly, or it will be too late.

First we are to discharge the stomach, the seat of the disorder, as much as possible, to throw out part of the Poison by vomiting; for which nothing is more fit and handy than sweet oil, or butter and warm water. They are the best drugs to defend the coats of that bowel against the minute but deadly points of those salts, whose wounds make up in number what they singly want in quantity, and can kill as effectually as either sword or pistol.

These softning and diluting materials, if any thing can, will soon promote the expulsion of some of the pungent Spicula, besides that they lubricate; and lastly make way for the exhibition of the
greater

greater antidotes, and render the use of them safer for the correction and expulsion of what venomous tincture may still remain.

From experiments we have seen all the corrosive force of this chemical preparation of *Corrosive Sublimate Mercury* quite altered, by solutions made of them in oil of tartar per Deliquium, *i. e.* Solution of dry salt of tartar into liquor, by being only exposed to the dampness of the air. Any fixt alkalious or lixivate salts will do the same, by sheathing the sharp points of those penetrating saline Spicula, and so abate the force and virulency of this so strong a Poison: and indeed, they afford the best assistance for such an end, above all other antidotes as yet known.

This *Corrosive Sublimate*, as all other Poisons so called, should be directly thrown back by suitable emetics, before it be allowed time to take too great effect. Dr *Shaw* advises one of verdigrease, from one to two grains, because it works without delay, the quickest of any that can on such sudden emergencies be given; but this I think not quite
suitable,

suitable, as it would be driving out one
 Poison by means of another; which may
 not be so safe: though to some it may
 not seem alike improper, as we often see
 one nail drive out another, as I observed
 before, in prescribing a gentle Sal for
 the palsey proceeding from mercurial
 unktion, that obstructed those nerves.
 And fire too in burning may be expelled
 by fire: but the case is not parallel here;
 wherefore I would rather use milder and
 safer remedies, as a dram of white vi-
 triol dissolved in warm water, and often
 repeated, which is a speedy vomit, and
 vents itself every emotion: or if you
 have any suspicion thereof as a salt, tinc-
 ture or decoction of ipecacuanha, or only
 oil and warm water; for the Poison it-
 self will excite vomiting and purging
 enough, without provoking it further
 with any stimulant. But then there must
 be liquor sufficient poured down as fast
 as possible, to wash the stomach and
 intestines clean, and dilute and weaken
 the action of the sublimate, and wash it
 off as far as possible. Yet half a grain
 of this preparation to an ounce of spirits,
 makes that solution so excellent for the
 Venereal

Venereal Disease, and will cure it where Salivation could not.

4. *Verdigrease* too, inwardly taken, is a strong Poison; and some bad preparations of *Antimony* are equally violent. These act almost in the same way as Arsenic and Sublimate, though in a little lower degree; and as they usually cause the like symptoms, do require the like method of cure; so as we have said so much already, we need say no more about it.

5. But, besides such solid Poisons as these aforesaid, Acid Spirits, as *Aqua Fortis* or *Regia*, strong *Spirits of Nitre*, *Oil of Vitriol*, and the like, prove Liquid Poisons, if swallowed by themselves; and yet when diluted, in many cases make excellent medicines. What mischief they may do is from corrosion, in being taken too strong and unguarded, and not from any unalterable poisonous quality in them.

When by either wickedness or mistake they are taken into the stomach, like so much liquid fire, or caustics, they burn their way through, and, without speedy and skilful assistance, dispatch

D

the

the person with the utmost torments. For which purpose diluting, lenient, and viscid substances should be plentifully thrown in, to vent, correct, and sheathe the corroding salts; and, as a defensative plaster, line the irritated membranes; for which end mucilaginous meat and drink should be often swallowed.

Montanus says, for corroding Poisons there is not a better medicine than cows-milk, if drank in great quantities, to satisfy thirst, which is always the consequence of swallowing such stimulating Poisons. All fixed alkaline salts and lixiviums, as aforesaid, lessen the corrosion here also. Milk warm from the cow, with testaceous powders, are very proper likewise.

An acquaintance in *Calvert* County, marrying a third Wife for money, who disturbed him with her Drunkenness, to get rid of his plague, placed a bottle of *Aquafortis* under her armed Chair, where her usual stock of Spirits used to stand; she unfortunately swallowing this instead of the other, roared out instantly, and her cruel Husband, with the help of his eldest Son, threw her on a bed, and
bound

bound her down; where she lay horribly tormented, and venting frightful shrieks, till kind death released her from her misery.

The Father and Son were both tried for murder, but (how it happened I never truly heard) they both were cleared, but surely against the Judge's will; who asked why, and how they could be so hard-hearted to bind her down themselves, and not employ others for so shocking a work? To the first question they replied, to prevent her killing herself; but what answer was made to the last question, I know not. However, after the trial was over, the Father insulted the Judge, and the Judge threatened to have the cause tried over again, for that he was sure he was guilty, but it dropped. The person died two years ago, and went to answer before a Judge that could not be mistaken in the case.

6. There are some recrements of *Metals* also, as Lead, and others made therefrom, justly reckoned among *Mineral Poisons*: as *Litharge* of both sorts, the scum of Lead in refining Metals; *Ceruss*, or *White Lead*; i. e. the Rust

of that venomous Metal impregnated with steams of vinegar; and *Red Lead*, made so by strong calcination; yet a poisonous quality remains in them all, and by chemical processes may be regenerated into Lead in its first form again.

These all, in some measure, possess the virtues, or vices rather, of Arsenic, but are not quite so suddenly destructive. The cure is the same as for other Poisons above described. But the less need be said on this head, as the ingenious Dr *Baker* has so fully and learnedly treated on this sort of Poison in all its forms, in his accurate Account thereof, in the first volume of *The Medical Transactions of our learned College of Physicians at London*; whither I refer you.

C O N-

CONCLUSION.

TO render this small Treatise of some further service, not to the Patient only, but to any of the Profession also, I will here finally shew how any Physician, Surgeon, or Apothecary, if called before a court of justice after examining any body suspected to have died by Poison, may judiciously and conscientiously give their Verdict, as men of skill and probity; and that not only on a person's being basely poisoned in general, but oftentimes even by what sort of Poison it was cruelly perpetrated.

This is to be learnt, for the most part, from what has been already delivered, upon taking notice of every sort of Poison herein treated of; but the most evident testimonies of any one's being poisoned, are these following. In the dead body opened, a lividness of the bowels, of a citron or else of a blackish colour, a gangreen and mortifi-

cation of the stomach and intestines: these are all manifest tokens of Poison exhibited; if the persons, before their decease, had perpetual violent vomitings, bloody stools, burning heat of urine, gripings, convulsions, syncope, cold sweats, palpitation of heart, loss of speech, and other symptoms mentioned in this Treatise before.

Narcotics and opiates have some few symptoms different from those proceeding from corrosive subjects of Poison. They leave no external marks or signs behind them, only a horrid ghastly look of the eyes from relaxation; even a common dose of opium will render them very dull; by which you may tell if any one has taken opium. The other singular signs are already reckoned up under the Article *Opium*, whither I refer you.

But in passing Judgment before a Court of Justice from the Signs above-mentioned, Gentlemen of the Faculty are to consider well, and make use of the greatest prudence and caution in speaking; for all these signs, which may be occasioned by the erosion of the
bowels

bowels by Poison, may happen also from sharp humours bred within the body ; a wonderful instance of which was that which set a Lady on fire, and burnt her to death in her bed-chamber, related in the *Medical Musæum*, that kindled first in her bowels. It is a wonder to me that some Gin-drinkers die not the same way.

Wherefore it will be adviseable, when no certain argument convinces the Judge, rather to pardon the Guilty of an accused crime, than to condemn the Innocent to death ; which is consonant both to divine and human laws. Yet sometimes there are cases so much out of doubt, that judgment must conscientiously be given in another manner, in order to do impartial justice.

APPENDIX.

A P P E N D I X.

I Was credibly informed here last summer, by a Gentleman from *Huntingdonshire*, of the following singular way of conveyance of infection from a mad Dog, where no bite was in the case; and which happened two or three days before he went from home.

A Farmer's great Dog ran mad, and bit his Master; then passing by the barn-door, where his Thresher happened to be making water, he chanced to lick the end of his Penis only, after which the fellow finding himself grow out of order, sent for an intimate acquaintance, and after telling him the accident, begged he would promise him to be a friend to his distressed wife and children, for he was certain he should run mad, and die thereof; which he accordingly did.

Dr *Dwight* in his small Treatise, *De Febribus Symptomaticis*, relates a story of a Man by choaking a mad Dog, with his hands, received infection from his breath into his own, and died mad therefrom. And another story he gives of a Man's taking his favourite Cat, as usual, into his bosom, and stroaking her, she scratched his finger and ran off, and could never more be found. He some time after ran mad, and made all manner of noises that Cats do, and died so; not from any venom conveyed by the Cat's dry nail, but from noxious vapours exhaled from her body.

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